

CLAIMS

1. A navigation system comprising:

a map data storage section for storing map data including road information regarding a partial lane in a plurality of lanes constituting a road, where advancing or leaving between a partial lane relative to another lane is permitted only in a predetermined authorized section;

a vehicle position detecting section for detecting the position of a vehicle; and

a navigation processing section for performing a predetermined navigation operation, based on said position of the vehicle detected by said vehicle position detecting section and the map data stored in said map data storage section.

2. A navigation system according to claim 1, wherein said navigation processing section comprises:

a timing judging section for judging a timing for performing predetermined guidance notification regarding said authorized section, based on said position of the vehicle and the position of said authorized section; and

a guidance notification section for performing said guidance notification at a timing judged by said timing judging section.

3. A navigation system according to claim 2, further comprising:

a driving lane instruction section for setting whether or not the vehicle is to travel said partial lane; and

wherein said navigation processing section further comprises a route search processing section for performing route search processing, taking into consideration the availability of said partial lane, depending on the setting of said driving lane instruction section.

4. A navigation system according to claim 3, wherein said navigation processing section further comprises a borderline display section for displaying a

borderline between said partial lane and said other lane in said authorized section in a color different from that of other borderlines.

5 5. A navigation system according to claim 2, wherein said guidance notification section performs said guidance notification both by guidance display and spoken announcement.

6. A navigation system according to claim 2, wherein said guidance notification section performs said guidance notification by displaying an enlarged view of an advancing/leaving point.

10 7. A navigation system according to claim 2, wherein said guidance notification section performs said guidance notification by spoken announcement.

8. A navigation system according to claim 2, wherein said partial lane is a carpool lane.

15 9. A navigation system comprising:
 a map data storage section for storing map data including road information regarding a partial lane in a plurality of lanes constituting a road, where advancing or leaving between a partial lane relative to another lane is permitted only in a predetermined authorized section;
 a vehicle position detecting section for detecting the position of a vehicle;
20 a route search processing section for searching a driving route and setting the guidance route, taking the use of said partial lane into consideration;
 a timing judging section for judging a timing for performing predetermined guidance notification regarding said authorized section, based on the position of said authorized section on said guidance route and said position of
25 the vehicle; and
 a guidance notification section for performing said guidance notification at a timing judged by said timing judging section.

10. A navigation system according to claim 9, wherein said partial lane is a carpool lane.

11. A navigation system according to claim 10, wherein said route search processing section searches the driving route by setting the cost of a link corresponding to the carpool lane lower than the cost of a link corresponding to an ordinary lane.

12. A navigation system according to claim 10, wherein said route search processing section sets the guidance route such that as the number of lanes increases, guidance regarding the carpool lane is performed earlier.

13. A navigation system according to claim 10, wherein said route search processing section further comprises a driving lane instruction section for setting whether or not the driving route is searched taking the use of a partial lane into consideration.

14. A navigation system comprising:

- a map data storage section for storing map data including road information regarding a carpool lane;
- a vehicle position detecting section for detecting the position of a vehicle;
- a route search processing section for searching a driving route and setting the guidance route, taking the use of said carpool lane into consideration;
- a timing judging section for judging a timing for performing guidance notification of a route change regarding advancing/leaving points, based on the advancing/leaving points where advancing or leaving between a carpool lane and ordinary lanes on said guidance route is permitted and said position of the vehicle, at the time of route guidance, and
- for performing guidance notification that the vehicle is approaching said advancing/leaving point, based on the advancing/leaving points and said position of the vehicle, when the route guidance is not being performed, and

a guidance notification section for performing guidance notification of a route guidance regarding said advancing/leaving points at the time of route guidance, and performing guidance notification that the vehicle is approaching said advancing/leaving point, when the route guidance is not being performed.

5 15. A route guidance method in a navigation system comprising:
 storing map data including road information regarding a partial lane
 in a plurality of lanes constituting a road, where advancing or leaving between a
 partial lane relative to another lane is permitted only in a predetermined authorized
 section;

10 detecting the position of a vehicle;
 searching a driving route and setting the guidance route, taking the
 use of said partial lane into consideration;

 judging a timing for performing predetermined guidance
 notification regarding said authorized section, based on said authorized section on
15 said guidance route and said position of the vehicle; and

 performing said guidance notification at a timing judged by said
 timing judging section.

20 16. A route guidance method in a navigation system according to claim
 15, wherein said guidance notification is performed both by guidance display and
 spoken announcement.

 17. A route guidance method in a navigation system according to claim
 15, further comprising:

 setting whether or not a driving route is searched taking the use of
 the partial lane into consideration.

25 18. A route guidance method in a navigation system according to claim
 15, wherein said partial lane is a carpool lane.

19. A route guidance method in a navigation system according to claim 15, wherein said guidance notification is performed by displaying an enlarged view of an advancing/leaving point.

5 20. A route guidance method in a navigation system according to claim 15, wherein said guidance notification is performed by spoken announcement.

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